

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 09-163352
 (43)Date of publication of application : 20.08.1997

(51)Int.Cl.

H04N 7/173
 G06F 13/00
 H04H 1/08
 H04L 12/54
 H04L 12/58
 H04L 29/08
 H04M 11/08
 H04N 7/10

(21)Application number : 07-348268
 (22)Date of filing : 13.12.1995

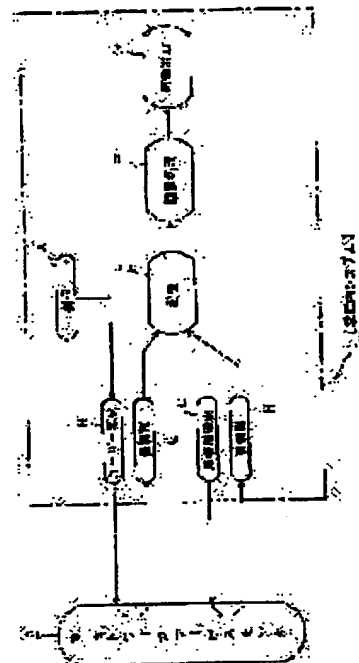
(71)Applicant : SONY CORP
 (72)Inventor : HIRONO CHI HARU

(54) COMMUNICATION TERMINAL EQUIPMENT, HOST COMPUTER DEVICE AND COMMUNICATION SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide information such as commercial information, which is not directly requested from a user, by performing down load request regardless of an operation during communication line connection and fetching down load data.

SOLUTION: When there is a margin on a line while an operation A for a request B of down load from the user is not performed, a domestic system 1 automatically requests the down load of back information H to the host computer of network service center 2 (D). Corresponding to this request, the host computer selects the back information correspondent to that user and down loads it in the domestic system 1 (H). The down-loaded back information is fetched into a storage part (E) and that down-loaded back information is synthesized with the image of front information or a video signal from AV equipment, for example, on a screen (F). Then, that image is outputted (G) from the monitor or singly displayed on the monitor corresponding to the operation of user.



LEGAL STATUS

[Date of request for examination] 11.12.2002
 [Date of sending the examiner's decision of rejection]
 [Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]
 [Date of final disposal for application]
 [Patent number]
 [Date of registration]
 [Number of appeal against examiner's decision of rejection]
 [Date of requesting appeal against examiner's decision of rejection]
 [Date of extinction of right]

*** NOTICES ***

JPO and NCIP are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. *** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The communication terminal which is characterized by providing the following and which can connect with host computer equipment by the communication line, and can perform a data demand The 1st access means which performs the download demand of the data requirement specified by actuation to the host computer equipment side during communication line connection, and incorporates download data The 2nd access means which performs a download demand to a host computer equipment side regardless of actuation, and incorporates download data during communication line connection

[Claim 2] Said 2nd access means is a communication terminal according to claim 1 characterized by performing incorporation of a download demand and download data in the period when download by said 1st access means is not performed [be / it / under / communication line connection / setting].

[Claim 3] The communication terminal according to claim 1 characterized by having the output means which can compound the download data incorporated by said 2nd access means with those data, and can output them in the case of the output of the download data or other data which were incorporated by said 1st access means.

[Claim 4] Host computer equipment which is connected with a communication terminal by the communication line, chooses predetermined data when there is a download demand as which the data which should be transmitted are not specified in the host computer equipment which can perform data transmission to a communication terminal, and is characterized by the ability to perform data transmission to the connected communication terminal.

[Claim 5] Host computer equipment according to claim 4 characterized by choosing predetermined data according to the identification information of the connected communication terminal, and performing data transmission to the communication terminal when there is a download demand as which the data which should be transmitted are not specified.

[Claim 6] In the communication system characterized by providing the following said communication terminal While being able to perform the download demand of the data requirement specified by actuation to the host computer equipment side during communication line connection and being able to incorporate download data Regardless of actuation, a download demand is given to a host computer equipment side, and it is constituted so that download data can be incorporated. Said host computer equipment While performing the specified data transmission to said communication terminal according to the download demand of the data requirement specified by actuation by the side of said communication terminal Communication system characterized by choosing predetermined data, and being constituted so that data transmission can be performed to said communication terminal when there is a download demand as which the data which should be transmitted from said communication terminal side are not specified Communication line Communication terminal Host computer equipment

[Translation done.]

* NOTICES *

JPO and NCIP are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. *** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is suitable for the field of a personal computer communication network (henceforth personal computer communications) etc., concerning a communication terminal, host computer equipment, and communication system.

[0002]

[Description of the Prior Art] Networks which communicate by connecting a domestic communication terminal and the host computer equipment in a network service center, such as the so-called personal computer communications, have spread.

[0003] Although there are many gestalten which offer the data with which the host computer equipment side was demanded according to a demand of the user of a communication terminal in such a network, there are data with which the commercials of an enterprise etc. are not demanded directly, and a thing he is trying to transmit simultaneously with the data which should be offered. In this case, for a user side, when seeing the data downloaded in network connection on monitor display, institutional advertising, various event information, etc. will appear in the part on a screen. Or when a user demands a commercial display, the screen output is made to be carried out.

[0004]

[Problem(s) to be Solved by the Invention] By the way, in the system which added information, such as commercials, in this way, since the same commercials will be offered even if who accesses, it will become those uninterested with a meaningless thing. Moreover, a display output is carried out to a communication terminal side only into network connection. There is a problem that the effectiveness as information offer of commercials etc. is thin, from these things.

[0005] Moreover, if it sees from the user side of a communication terminal, it will also produce that do not seem unnecessary information or the commercials which he wants are not obtained. Since it can furthermore see only in network connection, when it thinks that a user wants to see, it is not provided immediately, either.

[0006]

[Means for Solving the Problem] This invention aims at enabling it to provide effectively in view of such a trouble also for information which a user does not demand directly, such as commercial information.

[0007] For this reason, the 1st access means which performs the download demand of the data requirement specified by actuation to the host computer equipment side during communication line connection, and incorporates download data, and 2nd access means actuation carries out a download demand to a host computer equipment side independently, and incorporate download data during communication line connection make have in the communication terminal which can connect with host computer equipment by the communication line, and can perform a data demand.

[0008] For example, incorporation of the download demand by the 2nd access means and download data is performed in the period when download by the 1st access means is not performed [be / it / under / communication line connection / setting]. And the download data incorporated by the 2nd access means are compounded with those data, and it enables it to output them in the case of the output of the download data and other data which were incorporated by the 1st access means.

[0009] Moreover, when there is a download demand as which the data which should be transmitted are not specified, predetermined data are chosen and it enables it to perform data transmission to the connected communication terminal in host computer equipment. For example, when there is a download demand as which the data which should be transmitted are not specified, predetermined data are chosen according to the identification information of the connected communication terminal, and data transmission is performed to the communication terminal.

[0010] That is, a user makes the period which omits the original download demand download commercial information etc. to a communication terminal on a network. The downloaded commercial information is saved and it enables it to display with a communication terminal also except the time of communication line connection. Moreover, about commercial information, it is made to perform offer doubled with taste, such as a user, etc.

[0011]

[Embodiment of the Invention] Hereafter, drawing 1 - drawing 11 explain the gestalt of operation of this invention. This example is a system as the so-called personal computer communications, and let it be the communication system which the host computer equipment in a user's domestic communication terminal and network service center is connected, and is constituted.

[0012] Drawing 1 shows the example of communication system. the domestic system 1 presupposes that it is the terminal system which consists of a personal computer which a user owns, various AV (audio/— visual) devices, etc. Through a modem 10, it connects with the public line network 3, or the domestic AV equipment 12 with which a personal computer and various AV equipments are contained is connected with a communication network 4 through the network terminal unit 11. In a communication network 4, it is a communication link line by LAN, a cable television circuit, etc.

[0013] A network service center 2 is a host office as personal computer communication system, and is connected with the domestic system 1 through the public line network 3 or a communication network 4. Thereby, the domestic system 1 is accessed to a network service center 2, and various data communication of it, such as download of desired data, is made possible.

[0014] The example of a configuration as a domestic system 1 is shown in drawing 2. CPU20 is only a function part as the so-called personal computer, and it becomes the controller which controls the communication link actuation through a modem 10 or the network terminal 11, and actuation of the having-various AV equipments etc. domestic system 1. The storage section 21 has ROM and RAM and serves as a part which stores a program storage area of operation, a work-piece RAM field, the download

data obtained by communication link.

[0015] As a part which functions as an AV equipment, CD playback block 23, the video block 24, FM tuner block 26, and TV tuner block 28 are established in this example. Moreover, as a user interface part which outputs the voice from an AV equipment, an image, the image about personal computer communications, etc., a display circuit 29 and a monitor 30 are formed, and an audio circuit 31 and the loudspeaker section 32 are formed further. Furthermore, a control unit 34 and the input interface section 33 are formed as a user interface part as a part which inputs the actuation information from a user.

[0016] Each part is connected with CPU20 by control / data bus 22, and transfer of data or a control signal is performed.

[0017] CD playback block 23 is equipped with the function as the so-called compact disc player, a user loads with a compact disk (disks of the so-called CD specification, such as CD for music, a video CD, and CD-ROM), it is carrying out playback actuation and a sound signal and a video signal are reproduced. The reproduced sound signal is processed in an audio circuit 31, and is outputted as voice from the loudspeaker section 32. Moreover, the reproduced video signal is sent to a display circuit 29, and is outputted on a screen from a monitor 30.

[0018] The video block 24 is equipped with functions, such as a videocassette recorder, and performs playback of the image from a video tape, and a sound signal according to actuation of a user. The reproduced sound signal is processed in an audio circuit 31, and is outputted as voice from the loudspeaker section 32. Moreover, the reproduced video signal is sent to a display circuit 29, and is outputted on a screen from a monitor 30.

[0019] FM tuner block 26 performs channel selection/recovery actuation from FM broadcasting electric-wave received with an antenna 25, and acquires a broadcast sound signal. Moreover, text etc. is decoded from the broadcast superimposed on alphabetic data etc. like an FM multiplex broadcast. The broadcast sound signal to which it received / restored is processed in an audio circuit 31, and is outputted as voice from the loudspeaker section 32. Moreover, the decoded text is sent to a display circuit 29, and is outputted on a screen from a monitor 30.

[0020] TV tuner block 28 performs channel selection/recovery actuation from the television broadcasting electric wave received with an antenna 27, and acquires a broadcast video signal and a broadcast sound signal. Moreover, text etc. can be decoded from the broadcast superimposed on alphabetic data etc. like a teletext. The broadcast sound signal to which it received / restored is processed in an audio circuit 31, and is outputted as voice from the loudspeaker section 32. Moreover, the broadcast video signal to which it received / restored, the decoded text are sent to a display circuit 29, and is outputted on a screen from a monitor 30.

[0021] The control unit 34 is constituted as a keyboard or a mouse, and those actuation information is supplied to CPU20 through the input interface section 33. CPU20 performs communication link motion control and motion control of various AV equipments according to actuation information.

[0022] Drawing 3 shows the important section of the system formed in the network service center 2 in the communication system of this example. A host computer 5 is connected with the public line network 3 through the public line interface section 8. Moreover, as for a host computer 5, a communication network 4 is connected through the network interface section 9. The communication terminal (domestic system 1) and data communication in each home connected with the public line network 3 or the communication network 4 by this can be performed.

[0023] The various data which can download the domestic system 1 in communication system are stored in the database 6. Moreover, it is stored as information which can download the commercial information of an enterprise etc. to the domestic system 1. The original service information over the domestic system 1 (information on the various services for which a user specifies directly and asks) is called expression news 6a on explanation, and information in which a user does not do direct access, such as commercial information, is set to flesh-side information 6b.

[0024] The individual humanity news about each user who has joined this communication system is memorized by the user information database 7. In case a user joins communication system, the network service center 2 investigates age, a hobby, family structure, etc. by the questionnaire etc., and stores such individual humanity news in the user information database 7 with ID (identification code of an individual unit) given to the user who joins.

[0025] In the above communication system, the user of the domestic system 1 can enjoy the various actuation as music, an image, and a personal computer with various AV equipments, and also can access a network service center 2 using communication system, and can demand and download desired data.

[0026] Here, drawing 4 explains the image of a communication link mode which becomes possible in this example. As actuation (A) from the control units 34, such as a keyboard in the domestic system 1, a user can demand connection of the circuit to a network service center 2, and download of data (B).

[0027] According to this, the host computer 5 of a network service center 2 transmits the data demanded from the database 6 to the domestic system 1 as ejection and expression news (C). In the domestic system 1, the expression news downloaded in this way is incorporated in the storage section 21, and a user can use the downloaded information after (E) and this. For example, it can output on a screen from a monitor 30 through the picture signal processing (F) by the display circuit 29 (G).

[0028] When in addition to the activity gestalt as such usual personal computer communications in this example the domestic system 1 does not perform actuation (A) for the demand (B) of the download from a user etc. but allowances are in a circuit, download of flesh-side information is automatically required from the host computer 1 of a network service center 2 (D).

[0029] On the other hand, a host computer 1 chooses the flesh-side information according to the user, and downloads it to the domestic system 1 (H). The downloaded flesh-side information is incorporated by the storage section 21, (E) and its downloaded flesh-side information are compounded on the image for example, by expression news, or the video signal from an AV equipment and a screen, and it is outputted from a monitor 30 or it is independently displayed on a monitor 30 according to actuation of a user.

[0030] Processing of CPU20 for realizing such a moving function is shown in drawing 5, and processing of a host computer 5 is shown in drawing 6. The period when CPU20 has connected the circuit with a network service center 2 according to actuation of a user progresses to processing of F102 from step F101 of drawing 5. And when a user performs actuation from a control unit 34 and demands access, it accesses to a host computer 5 at step F103.

[0031] On the other hand, with a host computer 5, if a circuit with the domestic system 1 is connected, processing will progress to F202 from step F201 of drawing 6, and will distinguish a user's ID first. And when access from the domestic system 1 is performed as step F103 of drawing 5, expression news 6a which is data demanded by progressing to F205 from step F204 of drawing 6 is made to download from a database 6 to ejection and the domestic system 1.

[0032] In CPU20 of the domestic system 1, if expression news 6a transmitted from the host computer 5 as step F104 is accumulated in the storage section 21 and this download is completed, it will return from step F105 to F101.

[0033] Moreover, in CPU20, it be during a line connection, and the menu screen for a communication link of the period when neither access (F103) based on a download demand of a user nor download (F104) be perform, for example, a user, be see, or it be the period which be perform selection actuation, and progress to step F106 at a period without the need of perform data transfer of a large quantity between host computers 1, and flesh side information be access automatically.

[0034] When access of the flesh-side information on this step F106 is performed, processing of a host computer 5 progresses to F207 from step F206 of drawing 6. And based on user ID, suitable flesh-side information 6a is chosen from the inside of a database 6, and the flesh-side information 6a is made to download to the domestic system 1 as step F208.

[0035] Especially the host computer 5 is chosen with reference to the user individual's taste memorized by the user information database 7 as flesh-side information 6b which downloads suitable information for the user. For example, if a user is a music fan, music-related institutional advertising (for example, newly-released-piece-of-music information etc.) will be chosen, and it will transmit. Moreover, it is possible for a host computer 5 to request the manufacturer of the AV equipment by the side of a user, a model name, etc. to CPU20, to incorporate them, and to make it also make the information according to the model download as flesh-side information 6b.

[0036] CPU20 of the domestic system 1 will return from step F108 to F101, if flesh-side information 6b transmitted from the host computer 5 as step F107 of drawing 5 is accumulated in the storage section 21 and this download is completed. However, when a user performs access activation actuation, i.e., access activation actuation of expression news 6a, during download activation of flesh-side information 6a, it progresses to F110 from step F109, download of flesh-side information 6b is interrupted, and it moves to access of expression news 6a progressed and described above to step F103.

[0037] When a user terminates connection of a communication line, it escapes from a communications processing loop formation from step F101. Moreover, in a host computer 5 side, it will escape from a loop formation from step F203.

[0038] By such processing, with the communication system of this example, while a user can download the information which he wants by access to a network service center 2 as expression news 6a, a user will also download directly the flesh-side information which is not demanded, and it will be stored in the storage section 21. And when it will perform at the period when download of expression news 6a is not performed and access of expression news 6a is performed during download of flesh-side information 6a, in order to move especially from download of flesh-side information 6a to access actuation of expression news immediately, a communication link required for a user is not necessarily delayed.

[0039] Thus, a user can be provided with downloaded flesh-side information 6b in various kinds of modes the inside of communication line connection, and after a connection dissolution. Hereafter, the offer gestalt of the flesh-side information b is illustrated.

[0040] For example, drawing 7 shows the example of an image by which the display output of CPU20 is carried out to a monitor 30, when a user reproduces Music CD with CD playback block 23. In this case, the actuation key for CD playback, the title of CD currently played, a track number, a hour entry, etc. are displayed. The actuation key displayed is clicking with the mouse in a control unit 34, and CPU30 can control actuation of CD playback block 23 under the condition that corresponding actuation is performed.

[0041] For example, in case such a screen is displayed, CPU20 makes the data memorized by the storage section 21 as flesh-side information 6b compound by ejection and the display circuit 29. And flesh-side information 6b, such as newly-released-piece-of-music information which is illustrated, is displayed on some screens. By choosing flesh-side information 6b which especially a network service center 2 side downloads according to a user's individual humanity news, a user does not look at unnecessary commercials etc. at all, and becomes a suitable information offer gestalt. For example, suitable information offer of offering the newly-released-piece-of-music information on CD is attained to the user who enjoys CD like drawing 7.

[0042] By the way, flesh-side information 6b, such as commercials, is making not only one screen but two or more information download, and more various information offers of it are attained. For example, can switch the content of a display as flesh-side information 6b for every fixed time amount, a user can prevent from getting bored by switching the content of a display, whenever it turns on the domestic system 1, or much effective information offers can be performed now.

[0043] Moreover, you may make it offer not only commercials but background-image information, and image information as flesh-side information. It is suitable for especially commercial information to offer background-image information etc. to the user of being unnecessary. For example, as an image which serves as a background of a certain display like drawing 8, scenery and various image images are offered as flesh-side information 6b. Thereby, the pleasure at the time of a user using the domestic system 1 can be extended. Especially when making such a background image into flesh-side information, the change of air at the time of a user's activity etc. can be aimed at by switching the content of an image.

[0044] Furthermore, when there is no need of not necessarily using a monitor 30 in the time of playback of Music CD and radio reception etc., the various image information downloaded as flesh-side information 6b can also be displayed with a switch. For example, while CPU20 is reproducing music from CD, it is also suitable to display with a switch various images, such as scenery incorporated as flesh-side information 6b. Especially, when a screen display is unnecessary, the function as a screen saver will also be demonstrated by displaying various images with a switch by flesh-side information 6b, and going.

[0045] A group division is carried out in various kinds of genres about these images, background images, etc., it prepares in the database 6, and the network service center 2 side asks each user the favorite genre beforehand. For example, genres, such as seashore scenery, mountains scenery, city scenery, and an abstract painting, are prepared. And downloading the image information of the genre specified in it to each user as flesh-side information 6b is also considered.

[0046] A communication network is a certain extent high speed, and in case a screen as shown in drawing 7 or drawing 8 is displayed, CPU20 performs the download demand of flesh-side information 6b at the event, and it becomes possible to update serially the content as flesh-side information 6b, and to display it of the case of a system by which the domestic system 1 by the side of a user is always connected to the network. In this case, if only the flesh-side information for the first one screen is memorized in the storage section 21, when performing drawing 7 or a screen display like drawing 8, the content of that flesh-side information can be displayed simultaneously. And what is necessary is just to update according to download after that. If it does in this way, the storage capacity for flesh-side information in the storage section 21 will be small, and will end.

[0047] Drawing 9 shows the display gestalt on which it includes in OS (operation system) of a personal computer, and flesh-side information 6b is displayed. In this example, flesh-side information 6b as a background image of the operation screen of a personal computer is used.

[0048] Drawing 10 shows the example which displays flesh-side information 6b, such as commercials, in a portable terminal unit. For example, the portable terminal unit of cleaving some original activity screens and offering a flesh-side information screen etc. may be unsuitable when the display screen is small. Then, if fixed time amount progress is carried out after stopping actuation, it

is possible to display the screen as flesh-side information 6b like drawing 10.

[0049] Drawing 11 is an example which shows flesh-side information in the so-called car-navigation system. When retrieving traffic information as the approach of download of the data as flesh-side information 6b using wireless, it is made to download flesh-side information simultaneously, or flesh-side information is put on the text of an FM multiplex broadcast, and it is possible to enable it to transmit and receive etc. Especially in the case of a car-navigation system, the effective commercial display for a user etc. is attained by incorporating selectively only the flesh-side information about the area near the current position. Namely, information on the store near the transit location of the present automobile etc. is set to flesh-side information 6b like drawing 11, it can be made to be able to display on a map screen, or the description of the store etc. can be displayed on some screens. Although the example of above various kinds has been explained, it cannot be overemphasized that this invention can consider the still more various examples of application.

[0050]

[Effect of the Invention] When there is a download demand as which the data which should be equipped with the 2nd access means which performs a download demand to a host computer equipment side independently [actuation] during communication line connection, and incorporates download data in the communication terminal of this invention as having explained above, and should transmit in host computer equipment are not specified, predetermined data choose and it enables it to carry out data transmission to the connected communication terminal.

[0051] Thereby, also for information which a user does not demand directly, such as commercial information and background screen information, the effectiveness that it can provide effectively as flesh-side information can be acquired, suitable flesh-side information data can be chosen according to the identification information (individual humanity news) of the communication terminal connected especially, and making it download to a communication terminal can perform more suitable information offer to each user. Moreover, it is not concerned with a line connection condition, but offer of flesh-side information is attained always.

[0052] Moreover, in a communication terminal side, incorporation of the download demand by the 2nd access means and download data is made to perform in the period when download by the 1st access means is not performed [be / it / under / communication line connection / setting], and a user does not reduce the function by 1st access means by which it is originally demanding.

[0053] And the download data incorporated by the 2nd access means are compounding with those data and enabling it to output in the case of the output of the download data and other data which were incorporated by the 1st access means, and can realize various information offer gestalten.

[Translation done.]

* NOTICES *

JPO and NCIP1 are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the explanatory view of the configuration of the communication system of the gestalt of operation of this invention.

[Drawing 2] It is the explanatory view of the configuration of the communication terminal of the gestalt of operation of this invention.

[Drawing 3] It is the explanatory view of the configuration of the host computer equipment of the gestalt of operation of this invention.

[Drawing 4] It is the explanatory view of the communication link actuation by the gestalt of operation.

[Drawing 5] It is the flow chart of processing by the side of the communication terminal at the time of communication link actuation of the gestalt of operation.

[Drawing 6] It is the flow chart of processing by the side of the host computer equipment at the time of communication link actuation of the gestalt of operation.

[Drawing 7] It is the explanatory view of the example of a screen display of the flesh-side information on the gestalt of operation.

[Drawing 8] It is the explanatory view of the example of a screen display of the flesh-side information on the gestalt of operation.

[Drawing 9] It is the explanatory view of the example of a screen display of the flesh-side information on the gestalt of other operations.

[Drawing 10] It is the explanatory view of the example of a screen display of the flesh-side information on the gestalt of other operations.

[Drawing 11] It is the explanatory view of the example of a screen display of the flesh-side information on the gestalt of other operations.

[Description of Notations]

- 1 Domestic System
- 2 Network Service Center
- 3 Public Line Network
- 4 Communication Network
- 5 Host Computer
- 6 Database
- 6a Expression news
- 6b Flesh-side information
- 7 User Information Database
- 20 CPU
- 21 Storage Section
- 23 CD Playback Block
- 24 Video Block
- 26 FM Tuner Block
- 28 TV Tuner Block
- 29 Display Circuit
- 30 Monitor
- 31 Audio Circuit
- 32 Loudspeaker Section
- 34 Control Unit

[Translation done.]

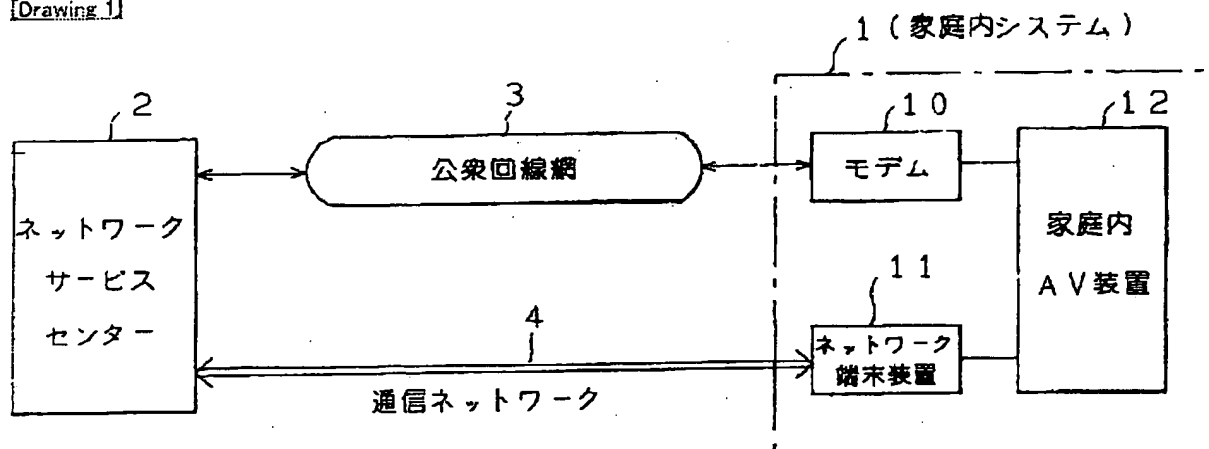
* NOTICES *

JPO and NCIP are not responsible for any damages caused by the use of this translation.

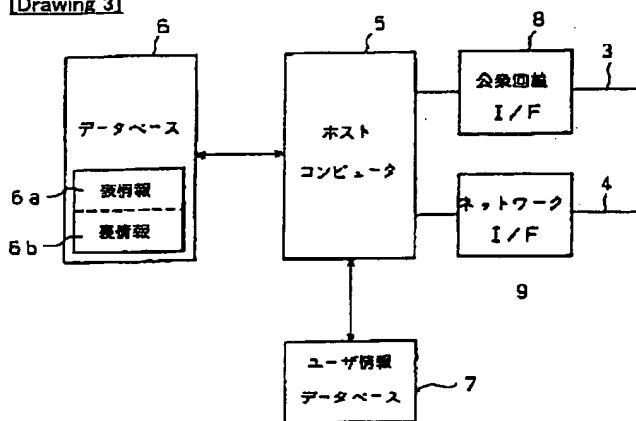
- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]

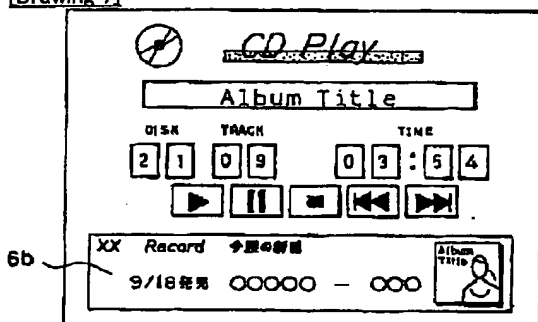


[Drawing 3]

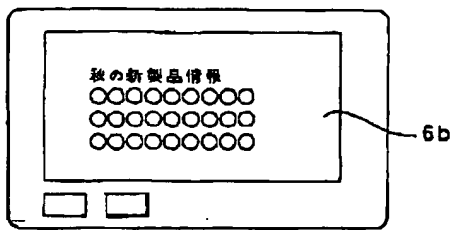


2 (ネットワークサービスセンター)

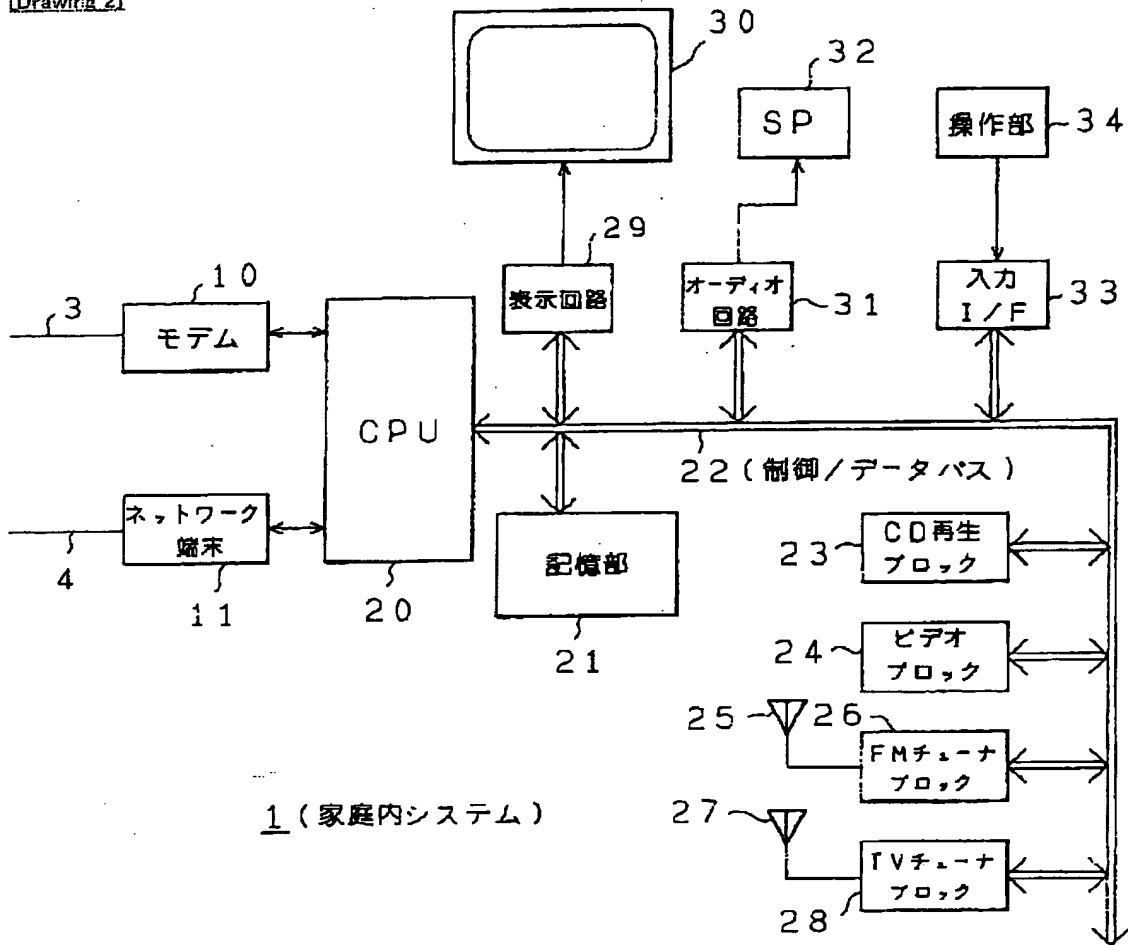
[Drawing 7]



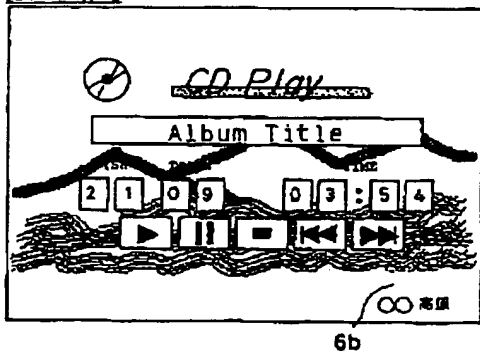
[Drawing 10]



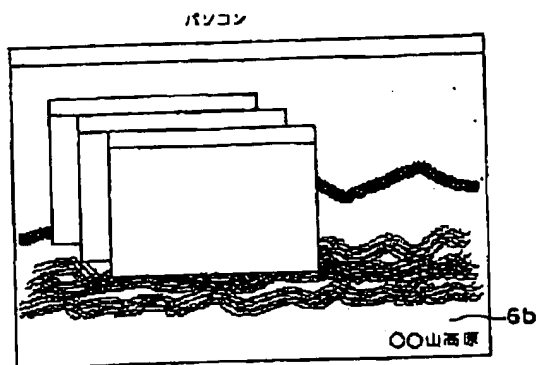
[Drawing 2]



[Drawing 8]

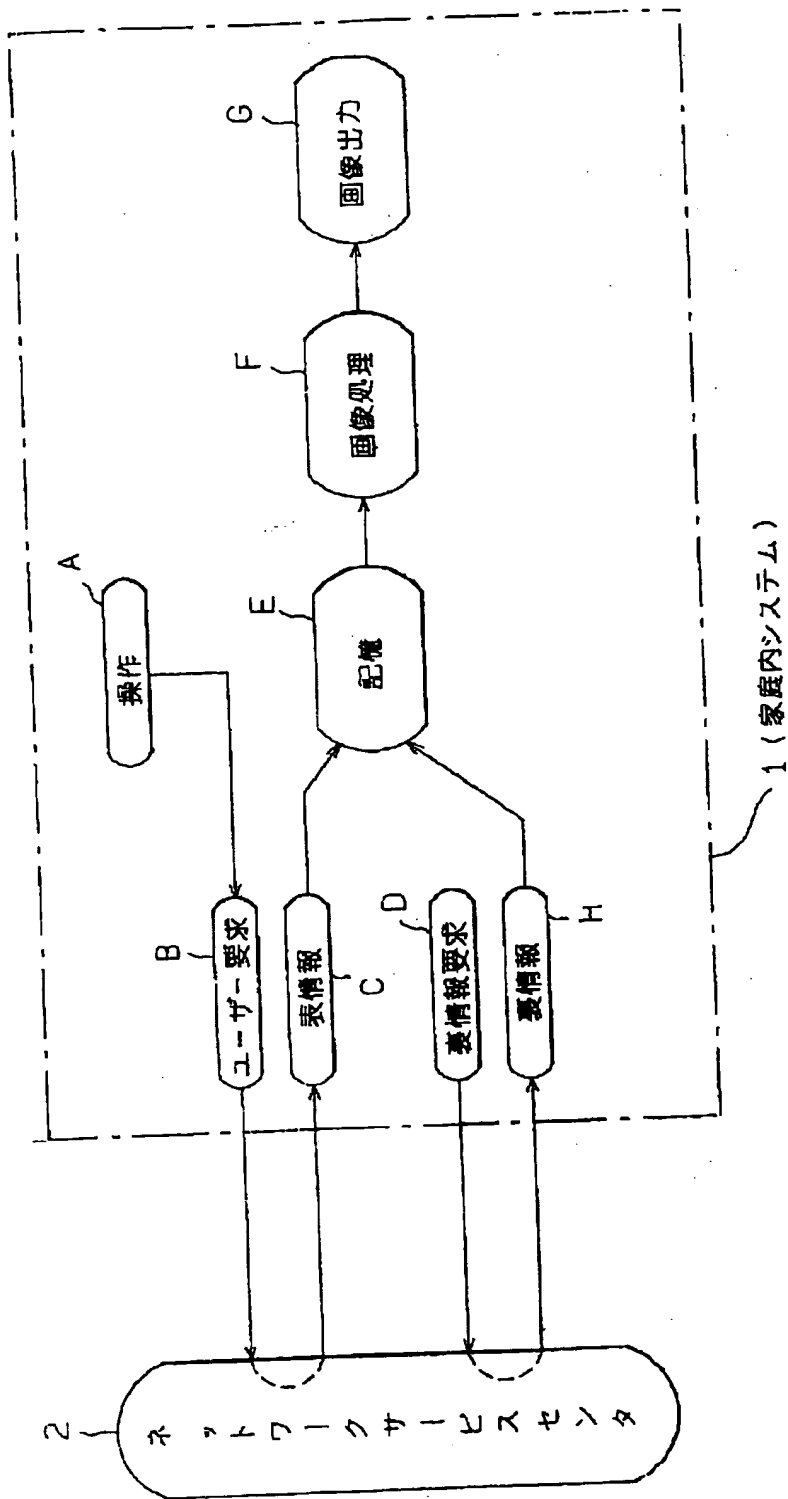


[Drawing 9]

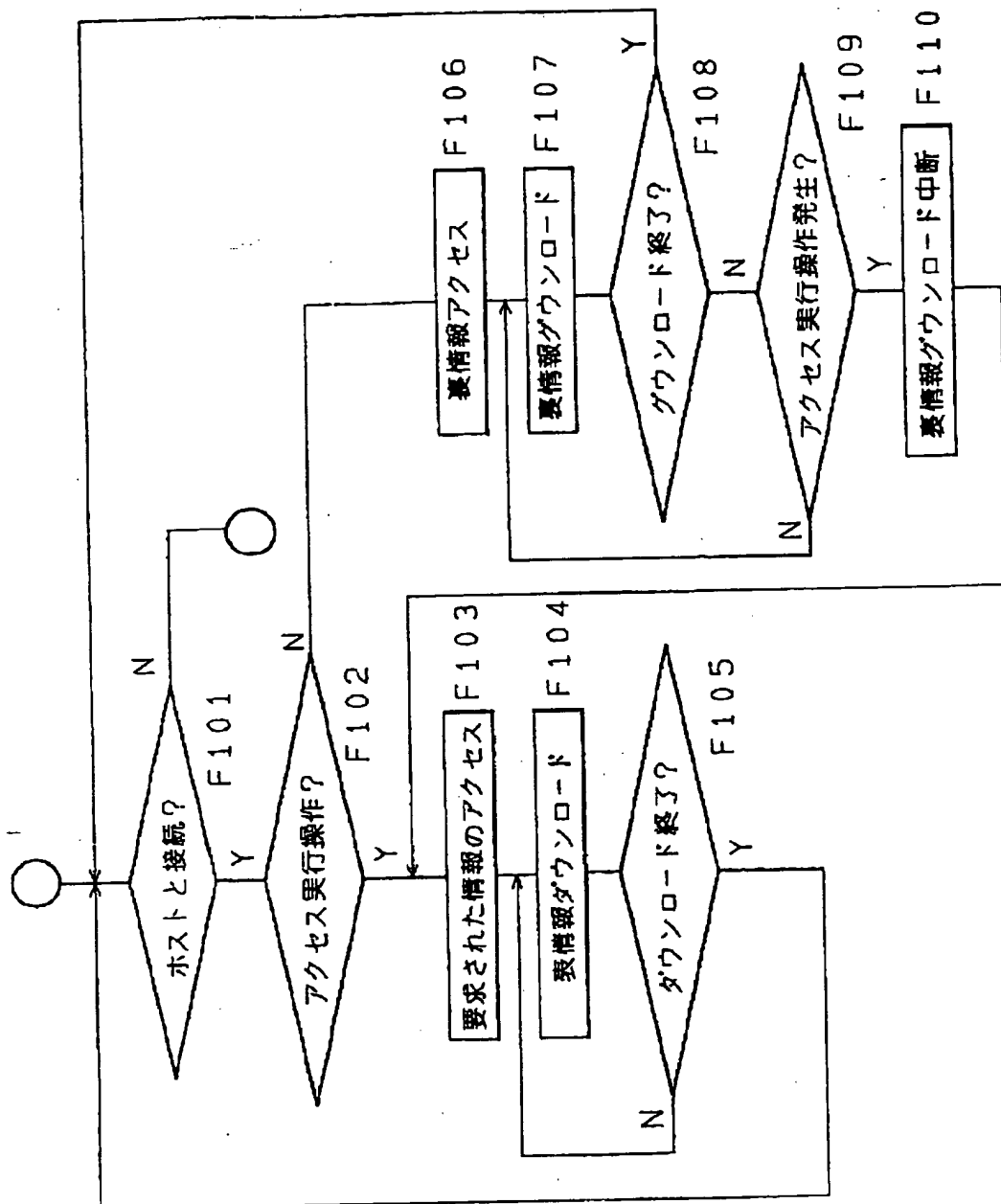


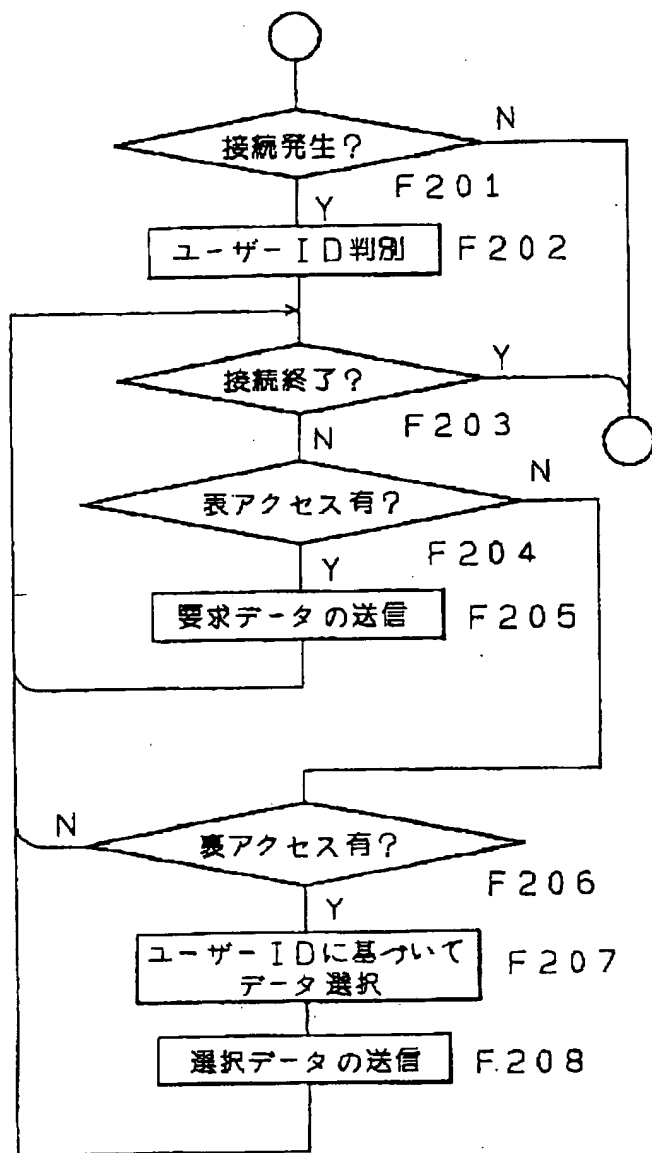
[Drawing 4]

[Drawing 5]

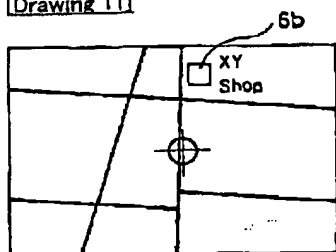


[Drawing 6]





[Drawing 11]



[Translation done.]

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.